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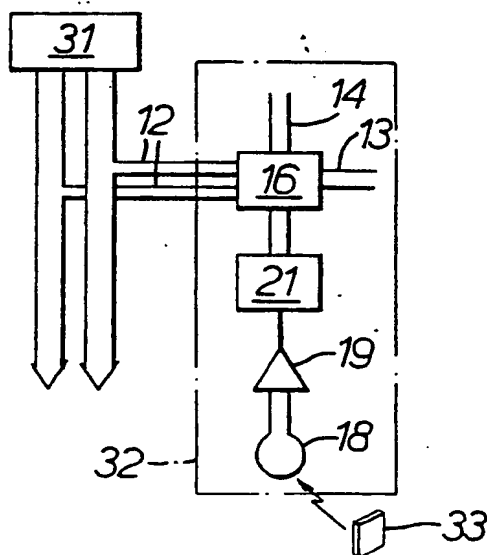
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⑤④ **Computer system.**

⑤⑦ A main frame computer (31) is coupled to a computer terminal (11 or 32) through data and address buses (12, 38, 39). The terminal (32) includes control electronics (16) coupled to a display (at 14) and to a keyboard (at 13) and also coupled with a detector (21) whether a coded signal is being received at (18) from a hands-free token (33) carried by the terminal operator. If the signals are being received at (18) then the terminal (11) is operable, either because it receives its power supply (at 15), or it is not latched out, or because it is interrogated by the computer (31) and gives an appropriate response.



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- No. 1414119. and British Patent Specification No. 1414120. Those Patent Specifications describe the use of tokens for controlling access to a secured area, and they are equally applicable to
5. protection of a computer terminal as described above. However, other sorts of coded signal generating tokens can be used. The important thing is that the token should be capable of releasing the latch when in the pocket of the operator so that
10. the operator does not need to use his hands to unlock the terminal before starting to operate it. Operation will be available automatically provided the operator arrives carrying the appropriate token.
15. It can be arranged that the peripheral device has a latch which normally prevents operation but which can be released if the coded signal is being received. Again it can be arranged that if the coded signal is not being received, the power supply
20. to the peripheral device is cut off. Again the detector can be arranged to set the peripheral device if coded signals are being received, so that the peripheral device can respond to an interrogation from the main frame computer by delivering a signal
25. which the main frame computer can interpret as showing that the coded signal is being received.
- It may be useful in some circumstances to have a detector of a presence at the peripheral device, for example a photoelectric device, or an
30. infra-red device, which is arranged to give a signal

In the arrangement in FIGURE 1, a computer terminal 11 is connected by lines 12 to a computer, through lines 13 to a keyboard, through lines 14 to a visual display unit, and through a line 15 to an electrical supply. The terminal contains control electronics indicated generally at 16, and connected to the line 15 through a normally open relay contact 17. A pick-up aerial 18 which is shown as positioned within the terminal, but may be external, is capable of picking up signals generated by a token in the pocket of a user, and those signals are amplified at 19 and fed to a detector 21 powered from the supply at 15 and capable of detecting whether particular signals are being picked up at 18. If so, the detector 21 is arranged to hold the contacts 17 closed, so that the control electronics 16 can be energised from the supply.

This provides a simple arrangement whereby unless a keyboard operator has a token generating the appropriate coded signals, the control electronics 16 are not energised and operation of the keyboard is ineffective.

FIGURE 2 shows a modification of the arrangement of FIGURE 1, suitable for use where there are a number of terminals 11, and where it is desired that a terminal can be operated if the operator is carrying any one of a number of differently coded tokens. In this case, the output from each amplifier 19 is connected to a different

terminal if the interrogation reveals that a token 33 is present at the terminal. Thus, the terminal has an aerial 18 as already described, and an amplifier 19 and a detector 21. The difference is that the detector 21 is coupled to the control electronics 16 through interrogation lines 34. It is then not necessary to have a latch or means for cutting off the power supply to the terminal because the main frame computer can be programmed so that as soon as there is any attempt to communicate with the computer 31 from the terminal 32, the computer 31 interrogates the terminal before responding to instructions. The interrogation lines 34 are coupled to the electronics 16 so that if a token 33 is present at 18, then the electronics will be set perhaps by the closing of a switch, or by the setting up of an appropriate code, or in some other way to be able to respond to the interrogation from the main frame computer 31, over lines 12.

It is possible to address a main computer 31 from a terminal, or other peripheral device, by way of Post Office lines 36, as shown in FIGURE 5, provided a modem 37, that is a device capable of modulating and demodulating coded signals, is included between the address and data buses 38 and 39 from the main computer, and the Post Office line 36. However it may be possible to feed input to, or extract information from, the main computer fraudulently by someone who has, or can get access to, a terminal connected to a Post Office line, and

.8.

described.

5. The portable token referred to at 33 will generally be one that can be carried in the pocket or the handbag of an authorised terminal operator being capable of transmitting coded signals to the receiver 18 without the token being taken out of the pocket or handbag, provided it is close to the terminal.

10. Such a token could have its own source of power to be capable of transmitting the coded signals continuously throughout the day, or to be capable of being switched on by a radio signal from the computer terminal when the authorised person approaches the terminals, so that power from the  
15. battery in the token will not be consumed when the person is not at the computer terminal.

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an individual at the peripheral device arranged to give a signal for rendering the device inoperative unless coded signals are also being received.

7.. A device as claimed in any preceding claim including a settable delay unit for delaying the control of the device for a set time following loss of a coded signal.

8. A computer terminal or other computer peripheral device arranged substantially as herein specifically described with reference to any figure of the accompanying drawings.

9. A device as claimed in any of the preceding claims in a computer system in which the bus between a main frame computer and a peripheral device includes an integrity protection unit which normally passes signals in either direction, but which can be programmed so that certain signals can only pass in accordance with a programme.



European Patent  
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# EUROPEAN SEARCH REPORT

0027058

Application number

EP 80 30 3565

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
D	<u>GB - A - 1 414 120</u> (LEWIS SECURITY SYSTEMS) * Page 1, line 71 - page 2, line 105 *	1-3,6	G 06 F 3/02// G 06 K 7/08 G 07 C 11/00
D	<u>FR - A - 2 159 362</u> (LEWIS SECURITY SYSTEMS) * Figure 1; page 3, line 29 - page 4, page 37 * & GB - A - 1 414 119	1-3,6	
	PROCEEDINGS OF THE EASTERN JOINT COMPUTER CONFERENCE, vol. 20, 12th-14th December 1961, AFIPS Publication 1962, pages 166-173 New York, U.S.A. P.B. LAZOVICK et al.: "A Versatile Man-Machine Communication Console" * Page 168, right-hand column, paragraph 3 *	1	TECHNICAL FIELDS SEARCHED (Int. Cl.) G 06 F 3/02 G 06 K 7/08 G 06 K 19/06
	<u>US - A - 3 643 219</u> (RAYTHEON) * Figure 1; column 1, lines 27-37; column 2, line 39 - column 3, line 62 *	1	
	<u>US - A - 3 508 205</u> (COMPUTER USAGE) * Figure 1; column 2, lines 19-70 *	1,9	CATEGORY OF CITED DOCUMENTS X: particularly relevant A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons
A	<u>US - A - 3 806 874</u> (GRETAG)	1	
A	<u>DE - A - 2 033 796</u> (OMRON TATEISI)	1	
<input checked="" type="checkbox"/> The present search report has been drawn up for all claims			&: member of the same patent family, corresponding document
Place of search The Hague		Date of completion of the search 17-12-1980	Examiner FORLEN

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